

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing of claims in the application.

1. (Currently Amended) A method of transforming a file of digital color data representing a color image to a new file of digital color data where one or more colors have been transformed to one or more new color locations where their reproduction is known to be preferred, said method comprising the steps of:

(a) providing the digital color data in a multi-dimensional color space;

(b) specifying one or more preferred color locations in the color space as one or more color magnets, wherein each color magnet has a ~~predetermined region of influence~~ an influence on other colors in the color space wherein the strength of the color magnet's influence is a function of the distance of the other color in color space from the color magnet;

(c) calculating color space distance between one or more color locations of the digital color data in the color space and one or more of the color magnets;

(d) prescribing a particular ~~activity~~ behavior for each color magnet that ~~affects color locations in the color space within the region of influence of each color magnet~~ determines the characteristic of the effects on surrounding colors in the color space of each color magnet; and

(e) ~~mapping~~ remapping the digital color data to ~~or toward~~ new locations in the multi-dimensional color space as a function of the color space distance ~~and the activity of individual data locations from each color magnet and the behavior of the color magnet(s)~~, wherein the degree or strength of ~~activity~~ behavior's influence is a function of at least the color space distance from the color magnet(s) or direction in color space.

2. (Currently Amended) The method as claimed in claim 1 wherein said ~~activity~~ behavior specified in step (d) includes at least one ~~activity~~

behavior selected from the group including attraction, repulsion, shielding and dragging.

3. (Currently Amended) The method as claimed in claim 2 wherein in the ~~activity~~ behavior of attraction the color magnet attracts colors to or toward itself.

4. (Currently Amended) The method as claimed in claim 2 wherein in the ~~activity~~ behavior of repulsion the color magnet repels colors from itself.

5. (Currently Amended) The method as claimed in claim 2 wherein in the ~~activity~~ behavior of shielding the color magnet shields nearby colors from the ~~effects~~ affect(s) of other color magnet(s).

6. (Currently Amended) The method as claimed in claim 2 wherein in the ~~activity~~ behavior of dragging the color magnet itself moves in the color space, dragging nearby colors along with it in a prescribed and smoothly varying manner.

7. (Original) The method as claimed in claim 1 wherein the preferred color location is selected from the group including a point, line, plane, or cylinder in the color space.

8. (Original) The method as claimed in claim 1 wherein the preferred color location is known to a viewer of the color image to be preferably reproduced in a particular accurate colorimetric manner relative to other renderings of that color.

9. (Original) The method as claimed in claim 8 wherein the preferred color location includes at least one of sky, foliage and skin tones.

10. (Original) The method as claimed in claim 1 wherein the multi-dimensional color space is CIELab/CIELCh color space.

11. (Original) The method as claimed in claim 1 wherein the multi-dimensional color space is CIELUV color space

12. (Original) The method as claimed in claim 1 wherein the multi-dimensional color space is any color space wherein the dimensions correspond to perceptual attributes of color for human observers, including one or more of lightness, brightness, chroma, colorfulness, saturation and hue.

13. (Original) The method as claimed in claim 1 wherein step (c) introduces anisotropic behavior into the calculation of color space distance by allowing for separate weightings in one or more of the dimensions of the multi-dimensional color space.

14. (Currently Amended) The method as claimed in claim 1 wherein step (e) introduces anisotropic behavior into the mapping by allowing for separate degrees or strengths of ~~activity~~ behavior in one or more of the dimensions of the multi-dimensional color space.

15. (Currently Amended) A computer program product for transforming a file of digital color data representing a color image to a new file of digital color data comprising: a computer readable storage medium having a computer program stored thereon for performing the steps of:

(a) providing the digital color data in a multi-dimensional color space;

(b) specifying one or more preferred color locations in the color space as one or more color magnets, wherein each color magnet has a ~~predetermined region of influence~~ an influence on other colors in the color space wherein the strength of the color magnet's influence is a function of the distance of the other color in color space from the color magnet;

(c) calculating color space distance between one or more color locations of the digital color data in the color space and one or more of the color magnets;

(d) prescribing a particular ~~activity~~ behavior for each color magnet that ~~affects color locations in the color space within the region of influence of each color magnet~~ determines the characteristic of the color magnet's effects on other colors in the color space; and

(e) ~~mapping~~ remapping the digital color data to new locations in the multi-dimensional color space as a function of the color space distance ~~and the activity of individual data locations from each color magnet(s) and the behavior of each color magnet,~~ wherein the degree or strength of ~~activity the behavior's influence~~ is a function of the color space distance or direction in color space, thereby transforming the digital color data to ~~or toward~~ new color locations where their reproduction is known to be preferred.

16. (Currently Amended) The computer program product as claimed in claim 15 wherein said ~~activity behavior~~ specified in step (d) includes at least one ~~activity behavior~~ selected from the group including attraction, repulsion, shielding and dragging.

17. (Currently Amended) The computer program product as claimed in claim 16 wherein in the ~~activity behavior~~ of attraction the color magnet attracts colors to or toward itself.

18. (Currently Amended) The computer program product as claimed in claim 16 wherein in the ~~activity behavior~~ of repulsion the color magnet repels colors from itself.

19. (Currently Amended) The computer program product as claimed in claim 16 wherein in the ~~activity behavior~~ of shielding the color magnet shields nearby colors from the effects of other color magnets.

20. (Currently Amended) The computer program product as claimed in claim 16 wherein in the ~~activity behavior~~ of dragging the color magnet itself moves in the color space, dragging nearby colors along with it in a prescribed and smoothly varying manner.

21. (Original) The computer program product as claimed in claim 15 wherein the preferred color location is selected from the group including a point, line, plane, or cylinder in the color space.

22. (Original) The computer program product as claimed in claim 15 wherein the preferred color location is known to a viewer of the color

image to be preferably reproduced in a particular accurate manner relative to other renderings of that color.

23. (Original) The computer program product as claimed in claim 22 wherein the preferred color location includes at least one of sky, foliage and skin tones.

24. (Original) The computer program product as claimed in claim 15 wherein the multi-dimensional color space is CIELab/CIELCh color space.

25. (Original) The computer program product as claimed in claim 15 wherein the multi-dimensional color space is CIELUV color space.

26. (Original) The computer program product as claimed in claim 15 wherein the multi-dimensional color space is any color space wherein the dimensions correspond to perceptual attributes of color for human observers, including one or more of lightness, brightness, chroma, colorfulness, saturation and hue.

27. (Original) The computer program product as claimed in claim 15 wherein step (c) introduces anisotropic behavior into the calculation of color space distance by allowing for separate weightings in one or more of the dimensions of the multi-dimensional color space.

28. (Currently Amended) The computer program product as claimed in claim 15 wherein step (e) introduces anisotropic behavior into the mapping by allowing for separate degrees (strengths) of ~~activity~~ behavior in one or more of the dimensions of the multi-dimensional color space.

29. (Currently Amended) A system for transforming a file of digital color data representing a color image to a new file of digital color data, said system comprising:

means for providing the digital color data in a multi-dimensional color space;

means for specifying one or more preferred color locations in the color space as one or more color magnets, wherein each color magnet has a

~~predetermined region of influence~~ an influence and a particular ~~activity~~ behavior that affects ~~other~~ color locations in the color space ~~within its region of influence~~;

a processor for (a) calculating color space distance between ~~one or more~~ the other color locations of the digital color data in the color space and one or more of the color magnets and (b) mapping the digital color data to new locations in the multi-dimensional color space as a function of the color space distance and the ~~activity~~ color magnet's behavior, wherein the degree or strength of ~~activity~~ the behavior is a function of the color space distance or direction in color space, thereby transforming the digital color data to new color locations where their reproduction is known to be preferred.

30. (Currently Amended) The system as claimed in claim 29 wherein said ~~activity~~ behavior specified includes at least one ~~activity~~ behavior selected from the group including attraction, repulsion, shielding and dragging.

31. (Currently Amended) The system as claimed in claim 30 wherein in the behavior of attraction the color magnet attracts colors to or toward itself.

32. (Currently Amended) The system as claimed in claim 30 wherein in the ~~activity~~ behavior of repulsion the color magnet repels colors from itself.

33. (Currently Amended) The system as claimed in claim 30 wherein in the ~~activity~~ behavior of shielding the color magnet shields nearby colors from the effects of other color magnets.

34. (Currently Amended) The system as claimed in claim 30 wherein in the ~~activity~~ behavior of dragging the color magnet itself moves in the color space, dragging nearby colors along with it in a prescribed and smoothly varying manner.